

COMMENTS

The rejection of Applicant's claim 41 under 35 U.S.C. 103(a) as unpatentable over U.S. Patent 5,630,590 issued May 20, 1997 to Bouchard, et al is noted. As Applicant has repeatedly pointed out, Applicant has claimed substantially the same invention as claimed in Bouchard, et al and has requested that an interference be declared between Applicant's claims and Bouchard, et al .

It is simply pointed out with respect to this rejection that Applicant has previously stated in an amendment in response to an office action dated July 18, 2000 in the subject application, that claim 41 was originally filed in U.S. Serial No. 08/656,564 filed May 31, 1996. Accordingly, this claim was co-pending with Bouchard, et al . No reason is clear to Applicant why an interference was not declared during the period of co-pendency. Applicant has continued to assert throughout the prosecution of U.S. Serial 08/656,564, U.S. Serial No. 08/892,788 and the subject application that Applicant intends to attempt to provoke an interference with Bouchard, et al .

It is respectfully submitted that Applicant has at all times been entitled to make this claim. It is submitted that this claim claims the same invention set forth in Bouchard, et al . It is again respectfully requested that an interference be declared.

There are some slight differences in the way the claims are worded but it is pointed out that the claims of the Bouchard, et al have been copied in the subject application and have been twice indicated allowable. It is also noted that no rejection of the Bouchard, et al claims previously copied and indicated allowable has been made in this application under 35 U.S.C. 102 or under 35 U.S.C. 103.

Accordingly, it is respectfully requested that the rejections of Applicant's claims under 35 U.S.C. 103 as unpatentable be withdrawn and that an interference be declared between Bouchard, et al and the subject application.

The rejection of Applicant's claim 41 under 35 U.S.C. 103(a) as unpatentable over U.S. Patent 5,308,088 issued May 3, 1994 to Edward Atkinson, et al (Atkinson, et al) is respectfully traversed and reconsideration is respectfully requested. Atkinson, et al is directed to the use of a brush seal with a plurality of bristles that sealingly contact a rotating member. The patent discloses that this invention is particularly useful in turbine engines used in the aircraft industry.

By reference to the specification of the subject application, it is disclosed on page 2 that,

“Brush seals for gas-turbine engines are known, being disclosed, for example in “Brush Seals,” *Directions*, Sept. 1993. As disclosed therein, a brush seal consists of densely packed metallic bristles that are welded between a down-stream backing plate and an up-stream side plate. In a typical round seal for aircraft turbine applications, the plates are ring-shaped, the bristles extending radially inward at a trailing lay angle and making an interference contact with a rotor element, so that the bristles become curved and follow the rotor as it grows and shrinks during engine operation.

Brush seals have not been applied to existing large power plant turbines for a number of reasons. For example, the existing rotor components, being made from elements of low carbon steel alloys that are selected for certain thermal expansion properties, are believed to be unsuitable as wear surfaces for contact by the bristles, particularly during the extended operation cycles that are demanded of stationary power plants. Suitable hardening of applicable compressor rotor members is believed to be prohibitively expensive, particularly in existing equipment.”

Accordingly, it is noted that there are significant reasons why brush seals of this type had not been used in stationary power plant turbines. Therefore it is respectfully submitted that in view of this disclosure and in view of the lack of any suggestion that brush seals have been used in large stationary turbines prior to Applicant's invention, this reference is not applicable since it discloses nothing more than a variation in the use of bristles in known aircraft engine applications.

By reference to Fig. 1 of Atkinson, et al, it is noted that the disclosed brush seals are attached to stationary engine structures, such as a gas turbine engine stator structure. The brush seals used by Applicant are not attached to any stator structure. As well known to those skilled in the art, stators are complementary rows of blades used in combination with rotary (rotor) blades in turbines to optimize energy production. The use of seals on stator blades in no way suggests the use of seals between an axial compressor and a rotor land region for restricting air passage into a chamber from the compressor. The majority of the air from the compressor is generally directed outside the chamber, which is designed to receive a limited amount of air so that bearings in the chamber can be cooled. This is a radically different application and is in no

suggested by Atkinson, et al . Particularly, Atkinson, et al uses a different configuration of seal that includes a variable extension on the rear backing plate for the seal. Applicant's claimed invention requires no such variable extension on the back plate. Since Applicant's invention is directed to limiting the flow of air between the axial compressor and a chamber, which in any event should receive limited amounts of air, there is no reason to be concerned about the possibility of the back plate being configured so close to the rotary surface that it cannot tolerate expansion and contraction of the rotary surface member.

Accordingly, the reasons for the use of the expandable rear plate in Atkinson, et al do not exist in Applicant's claimed invention. Accordingly, it is respectfully submitted that Atkinson, et al does nothing to show or suggest Applicant's claimed invention.

Examiner
agrees

The Examiner has opined that the difference between the prior art reference and the instant invention is the clearance dimension of the brush seal at the ambient temperature. The Examiner further opined that it would have been considered an obvious choice of mechanical design because one skilled in the art is familiar with basic fluid mechanics and normally has laboratory test facilities and further that to optimize or select a suitable clearance would be within the ability of ordinary skill in this art.

Contrary to Examiner's assertion, Atkinson, et al does disclose a specific location of the brush seal in the gas turbine engine at column 2, lines 40-43. In any event, the reference further discloses that there is no need for limitation of the length of the back plate since this plate is now variable. Particularly, since the Examiner's assertion that the difference between the prior art and the instant invention is the clearance dimension of the brush seal at ambient temperature, it is respectfully pointed out that Applicant refers to the clearance of the brush from the rotary surface, not the clearance of the back plate. The reference is directed to the clearance between the back plate and the rotary member. Accordingly this reference, does nothing to show or suggest Applicant's claimed invention.

Accordingly, it is respectfully submitted that this reference does not show or suggest Applicant's claim 41 and the withdrawal of all rejections based upon this reference is respectfully requested.

The rejection of Applicant's claims 32-40 under 35 U.S.C. 135(b) as not being made prior to one year from date on which U.S. Patent 5,630,590 was granted is respectfully traversed.

It is pointed out at the outset that this rejection has been addressed numerous times and it is not understood why this rejection is again repeated.

This Application, as originally filed April 9, 1999 as U.S. Serial No. 09/288,943 contained claims 1 - 20 of which claims 1, 11, and 17 were independent. In a Preliminary Amendment, Claims 1 - 20 were cancelled and new Claims 21 - 31 were added. New Claims 21-31, as stated in the Preliminary Amendment, represented the non-allowed claims from U.S. Serial No. 08/892,738 filed July 15, 1997 as a continuation of U.S. Serial No. 08/656,564 filed May 31, 1996. The non-allowed claims did not include features related to the admission of cooling air into the barrel of a turbine engine in addition to that passing the brush seal. The claims, which include this feature, have been allowed and issued in U.S. Patent 5,961,279 based upon U.S. Serial No. 08/892,738. The claims allowed were Claims 5-8, 13-16, 20, and 22-24 in U.S. Serial No. 08/892,738. This restatement of the non-allowed claims was made to simplify claim numbering and present the claims in better order for consideration.

In this Preliminary Amendment, it was requested that the Examiner declare an Interference between the subject application and U.S. Patent 5,630,590 (the '590 Patent). These claims were substantially the same claims as were filed originally in U.S. Serial No. 08/892,738 filed July 15, 1997 and were directed to the same invention claimed in U.S. Serial No. 08/656,564. New claims 32-40 were copied and added, for the express purpose of provoking an Interference with the '590 Patent and correspond substantially to claims 1-9 of the '590 Patent.

The present Application was filed April 9, 1999 as a continuation of U.S. Serial No. 08/892,738, which was a continuation of U.S. Serial No. 08/656,564. } - ✓

A Status Inquiry was submitted October 12, 1999 to determine the status of the subject Application.

A Second Preliminary Amendment made after discussions with Examiner Kwon. Applicant's attorney understood that Examiner Kwon had objections to Applicant's Claims 21-31 on various formal grounds. In this discussion it was understood by Applicant's attorney that cancellation of these claims could enable favorable consideration of the request for Interference. Accordingly, Applicant cancelled Claims 21-31 with the understanding that this would place the case in condition for Declaration of an Interference. Subsequently, an Office Action dated July 18, 2000, was issued. In this Office Action, Applicant's Claims 32-40 were rejected on the basis that these claims were not filed within one year of the issue date of the '590 Patent. The Office

Action stated that the proposed Interference could not be granted unless the Applicant had claimed substantially the same subject matter within one year of the issue date of the '590 Patent.

In response, Applicant filed an extensive Amendment on August 17, 2000. In this Amendment, Applicant added a new Claim 41, which Applicant stated represented Claim 1 of the originally filed U.S. Serial No. 08/656,564, filed May 31, 1996. This claim was entered. The claims then pending were Applicant's Claims 32-41. Claims 32-40 represent the claims copied for purposes of provoking the interference. Claim 41 is the same as Claim 1 in U.S. Serial No. 08/656,564 filed May 31, 1996.

The amendment included various appendices, which demonstrated that Applicant has at no time abandoned the claims originally filed and that Applicant has sought to move these claims forward to an interference and ultimately to issue. Copies of relevant Appendices, listed below, are attached hereto.

The claims as currently pending stand rejected on the basis that the claims 32 - 40 were first submitted on the filing date of the instant application, which is not within one year of the issue date of the '590 Patent and that Applicant has not claimed the same subject matter as the '590 Patent within one year of the issue date of the '590 Patent.

It is noted that the '590 Patent and U.S. Serial No. 08/656,564 were co-pending from May 31, 1996 until May 20, 1997 before the same examiner. The Claims in U.S. Serial No. 08/656,564 were continued in U.S. Serial No. 08/892,738 filed July 15, 1997 and after a Notice of Allowance allowing some claims, the remaining claims were filed as U.S. Serial No. 09/288,943 filed April 9, 1999. Please note that the claims now in this application were co-pending with the '590 Patent.

It is respectfully pointed out that Claim 41 is the same claim appearing in U.S. Serial No. 08/656,564 filed May 31, 1996. This claim was indicated allowable in a first Office Action Allowance mailed April 15, 1997, (over one month prior to the issue of the '590 Patent) in U.S. Serial No. 08/656,564 by Examiner Kwon. This Application was re-filed as U.S. Serial No. 08/892,738 and substantially the same claims were continued in that Application. Clearly claim 41 was pending and indicated as allowable within one year of the issue date of the '590 Patent. This claim was co-pending with the '590 Patent for almost one year. No explanation has been offered as to why the Patent Office did not declare an Interference during the period of co-pendency of allowed claims to the same invention. Applicant, at all times, has been entitled to

make all claims now pending and has noted his intention to provoke an interference and has requested an interference from May 31, 1996 until May 20, 1997 before the same examiner.

A summary of the various Appendices attached hereto, is as follows:

- APPENDIX 1 - Claims filed in U.S. Serial No.08/656,564 filed May 31, 1996. Application Allowed April 15, 1997. Abandoned in favor of Continuation Application on July 15, 1997. Pending May 31, 1996 to July 15, 1997.
- APPENDIX 2 - Notice of Allowance on U.S. Serial No.08/656,564 filed May 31, 1996
- APPENDIX 3 - Claims filed in U.S. Serial No.08/892,738 filed July 15, 1997. Claims 5-8, 13-16, 20 and 22-24 issued October 5, 1999. (Claims 1-4, 9-12, 17-19, 21, 25 and 26 filed in Continuation Application 09/288,943 filed April 9, 1998. Pending July 15, 1997 through March 30, 1999.)
- APPENDIX 4 - Office Action allowing Claims 5-8, 13-16, 20 and 22-24 and rejecting remaining claims in U.S. Serial No.08/892,738 filed July 15, 1997.
- APPENDIX 5 - Office Action mailed June 4, 1998 in U.S. Serial No.08/892,738 filed July 15, 1997.
- APPENDIX 6 - Amendment filed January 11, 1999 in Response to Office Action mailed June 4, 1998 in U.S. Serial No.08/892,738 filed July 15, 1997.
- APPENDIX 7 - Amendment filed March 30, 1999 withdrawing non-allowed claims in U.S. Serial No.08/892,738 filed July 15, 1997 for filing in Continuation Application U.S. Serial No. 09/288,943 filed April 9, 1999.
- APPENDIX 8 - Notice of Allowance and Issue Fee due in U.S. Serial No.08/892,738 filed July 15, 1997
- APPENDIX 7 - Amendment filed March 30, 1999 withdrawing non-allowed claims in U.S. Serial No.08/892,738 filed July 15, 1997
- APPENDIX 8 - Notice of Allowance and Issue Fee due on U.S. Serial No.08/892,738 filed July 15, 1997.
- APPENDIX 9 - Preliminary Amendment in Continuation Application U.S. Serial No.09/288,943 filed April 09, 1999.
- APPENDIX 10 - Second Preliminary Amendment in Continuation Application

U.S. Serial No.09/288,943 filed April 09, 1999.

- APPENDIX 11 - Office Action mailed July 18, 2000, rejecting all claims in U.S. Serial No.09/288,943 filed April 09, 1999.
- APPENDIX 12 - Amendment in Response to Office Action mailed July 18, 2000, in U.S. Serial No.09/288,943 filed April 09, 1999, adding new claim 41, which was a continuation of Claim 1 of U.S. Serial No.08/892,738 filed July 15, 1997.
- APPENDIX 13 - Office Action mailed October 23, 2000, in U.S. Serial No.09/288,943 filed April 09, 1999.
- APPENDIX 14 - Petition to Make Special mailed February 27, 2001 in U.S. Serial No.09/288,943 filed April 09, 1999.
- APPENDIX 15 - Decision On Petition to Make Special mailed September 24, 2002 in U.S. Serial No.09/288,943 filed April 09, 1999.
- APPENDIX 16 - Suspension of Action and notice that all claims allowable mailed June 4, 2001 and faxed August 20, 2001 in U.S. Serial No.09/288,943 filed April 09, 1999.
- APPENDIX 17- Suspension of Action and notice that all claims allowable mailed December 3, 2001 in U.S. Serial No.09/288,943 filed April 09, 1999.

It is believed clear that the attached materials and the foregoing comments clearly show that Applicant's currently pending claims 41-52 were clearly co-pending with the '590 Patent and any rejection of these claims based upon the premise that these claims were not pending within one year of the issuance of the '590 Patent is not well founded. It is respectfully requested that all such rejections be withdrawn.

Upon a review of MPEP 2307, (cited by the Examiner) it is not clear which section is relied upon by the Examiner. It is noted, however, that under 35 U.S.C. 135(b) that, "A claim which is the same as, or for the same or substantially same subject matter as, a claim of an issued patent may not be made in any application unless such a claim is made prior to one year from the date on which the patent was granted." As discussed above, Applicant's claims were not only made within one year of the date the '590 Patent was issued, but were co-pending with the '590

Patent application. It appears clear that there is no merit to the rejection based upon 35 U.S.C. 135(b).

In a related matter, it is respectfully submitted that *Atkinson, et al* , cited against Applicant's claims in the subject application is equally applicable to the '590 Patent. It is noted that under MPEP 2307.02, that if the ground of rejection is also applicable to the corresponding claims in the patent, any letter including the rejection must have the approval of the Group Director. There was no suggestion in the office action that this approval had been obtained.

The Examiner's reliance upon *Parks, et al v. Fine*, 227 USPQ 432 (Fed. Cir. 1985), as modified by 228 USPQ 677 (Fed. Cir. 1986) is believed to be misplaced. In that decision, the parties seeking to provoke the interference had added a material limitation during prosecution, which was not met in the claims of the patentee. Considerable attention was directed to whether the added limitation was a material limitation. In the present application, the Examiner has properly acknowledged that the Applicant must claim substantially the same subject matter. It is respectfully submitted that upon a review of Applicant's claims, it will be noted that particularly Applicant's claims 49 and 50 are clearly directed to refurbishing a gas turbine engine. The steps of removing the insert ring, providing an adapter ring, mounting the brush seal to the adapter ring and fastening the adapter ring to the inner barrel in place of the insert ring are the steps used to refurbish the power turbine. Accordingly, Applicant's claims meet all the limitations of the '590 Patent.

The Examiner has further opined that the fact that the Applicant's claim may be broad enough to cover the patent matter is not sufficient. In support of this premise, the Examiner cites *In re Frey*, 86 USPQ 99 (CCPA 1950). This case relates to the claiming of particular additives for use in a lubricating oil formulation. In this instance, the broader claims which may not have included a specific additive and which were not made until much later than the issue date, would appear to be a proper rejection because of the absence of an added material limitation. In the subject application, it is respectfully pointed out that upon a review of Applicant's claimed invention, in claim 41 for instance, the recitation of a stationary gas turbine engine, including the various claimed elements, reads on the turbine engine, including those components, whether or not refurbished or initially installed. As pointed out previously, Applicant's claims 49 and 50 are directed to the steps to refurbish the power plant.

By reference to Applicant's specification, particularly beginning at column 5, line 65 of Applicant's Patent 5,961,279, and continuing to column 6, line 9, it is stated that the brush seal can be added to existing turbine machines having worn labyrinth seals. It would appear clear that those skilled in the art would understand the term "stationary gas turbine engine" having the components cited in claim 41 or in claims 49 and 50 to comprise just that – a stationary gas turbine engine containing those components, whether refurbished or not. The disclosure in Applicant's specification is very clear that the stationary gas turbine engine can either be newly equipped with the components recited or it can be refurbished to have the components recited. Even if the plain language of the law, which says that substantially the same invention must be claimed is ignored, then it is respectfully pointed out the claims 49 and 50 disclose the steps of refurbishing the engine. Since these claims are for substantially the same subject matter and were presented prior to one year after the issuance of the '590 Patent and were co-pending with the '590 Patent and were indicated allowable during the co-pendency of the patent applications, it is respectfully submitted that no rejection under 35 U.S.C. 135(b) is proper.

The remaining portion of the rejection, which concludes that a brush seal mounted on a refurbished component was not claimed within one year is believed fully obviated by the filing of Applicant's claims previously withdrawn at the suggestion of the Examiner to expedite the declaration of the interference.

In view of the foregoing amendments and comments, it is respectfully submitted that Applicant's claims are now in condition for allowance and now in condition for declaration of an interference with the '590 Patent.

It is respectfully submitted that none of Applicant's claims have been shown or suggested by Atkinson, et al and it is respectfully requested that all rejections of Applicant's claims under 35 U.S.C. 103(a), in view of Atkinson, et al be withdrawn.

With respect to the rejections of Applicant's claims under Bouchard, et al (the '590 Patent) under 35 U.S.C. 103(a), it is respectfully submitted that Applicant is entitled to an interference with these claims and such is respectfully solicited.

With respect to the rejection under 35 U.S.C., 135(b), it is believed clear that Applicant has claimed substantially the same invention as the '590 Patent, within one year of the issue date of the '590 Patent.

It is respectfully pointed out that all claims in this application have been indicated as allowable by the Patent Office, at least once, and that certain of these claims have been indicated allowable as many as three times. It is also noted that on at least two separate occasions a decision to declare an interference was issued by the Patent Office and the Applicant's prosecution of this application was delayed at least one and one-half years by these prior decisions, suspension of prosecution and subsequent rejection of Applicant's claims on the same or similar grounds.


It is also noted that a Petition To Make Special has been granted in the subject application.

Further, Applicant's Appeal, filed March 6, 2001, related to all the issues raised in the Office Action, except the rejection of Applicant's claim 41. Applicant's Appeal was dismissed as to all of Applicant's claims without a hearing by the Board of Appeals.

Accordingly, it is respectfully requested that this application be handled with dispatch and that Applicant's claims be found allowable and in condition for the declaration of interference and that an interference be declared. It is respectfully pointed out that this request for declaration for an interference has been pending since April 9, 1999. This represents a delay to Applicant of over four years. After four years of extended proceedings in the Patent Office, Applicant is in the position of responding to previously made rejections for the second time. Despite Applicant's efforts to cooperate in every way possible, no progress has been made in obtaining a declaration of an interference.

It is respectfully submitted that justice delayed this long is justice denied. Again, it is respectfully requested that Applicant's claims be found allowable and that an interference be declared.

Respectfully submitted,


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